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| **Explanation of Math Instructional Sequence**  *The following two pages will explain the set up of the Instructional Sequence.* | | |
| Unit #: **Title of Unit** Time Frame: Dates for instructing (days allotted) | | |
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| **Essential Understandings: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * This section notes the “big math ideas” this unit focuses on. | | |
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| **CCSS focus this unit:**   * The coding and wording for the specific standards directly linked to the Essential Understandings of this unit will be listed here.   Also addressed:   * The coding and wording for other standards connected to the content of this unit, though not a direct connection to the Essential Understanding will be listed here. |  | **Math Practices**  This section reminds us of the instructional expectations of our lessons by listing the 8 Standards for Mathematical Practice noted in our Common Core State Standards. |
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|  | Planning/Reflective Questions for Teachers   * The CCSS expects our instruction to change. * The questions listed here are to assist our thinking in regards to planning and instructional practice. |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies  \*(referenced in Support Resources & offered at the print shop) |  | **Critical Vocabulary:**  Specific terms that should be used with precision while communicating about the topic of this unit will be listed here.  REMEMBER: WPS portal houses the concept cards for student interaction and display, strategies and definitions packet, and interactive SMART Board activities designed to support vocabulary understanding. |
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| Lessons not aligned to CCSS: lessons that are not included or listed as “optional” will be listed here. Optional lessons are included in the list of lessons and are considered lessons that enhance students’ learning, though not directly addressing grade level standards. | | |

This transitional document is a work in progress. Constructive feedback is appreciated. ([lsharlow@usd259.net](mailto:lsharlow@usd259.net)) ☺

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| **page 2** | | |
| **CCSS** | **Lesson** | **Questions to encourage MP** |
| For the objective of each lesson, the following will be noted:  Content Standard(s)  Standards for Mathematical Practice  ▲Assessed indicators (3rd-5th) | * **Unit Lesson #– Lesson Title** p. pages in Teacher’s Guide   A star (★) will be in front of lessons that have changes that support the new CCSS. Teachers will need to access the new resources from either the WPS portal, or everydaymathonline.com.  All other lessons will have a circled bullet (⬝)  *Teacher Note: instructional adjustments that are necessary to target skills and concepts.* | * Questions listed for each lesson that focus on one or more Mathematical Practice Standards * These questions could be beneficial for formative assessment or reflective closing opportunities. |
|  | * Additional Lessons/Half-Lessons will be inserted within units to address content that requires instructional support. |  |
|  | * **Progress Check - Unit lesson #**   p. in Teacher’s Lesson Guide  *(When lessons have been deleted from a unit, items from the Written Assessment Part A that should be skipped will be noted here )* |  |

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| Support Resources **page 2 or 3** |
| Coded standard (i.e. 5.OA.2)  Resources that support the focus standards of this unit will be listed here. Each standard will have its own list of support activities. These can be used to enhance core instruction or intervention needs.  Resources could include: Everyday Math Games (GK), “Teaching Student Centered Mathematics” (VDW); or the AIMS-Solve it book (AIMS PS)  *Remember, Everyday Mathematics part 3: Differentiation Options offer instructional support for intervention. These are not listed within these boxes, but are valuable activities to consider.* |

Unit 1: **Naming and Constructing Geometric Figures** Time Frame: August 15-31 (13 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Draw and identify lines and angles, and classify shapes by properties of their lines and angles. | | |
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| **CCSS focus this unit:**   * 4.G.1-- Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. * 4.G.2-- Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.   Also addressed:   * 4.NBT.4-- Fluently add and subtract multi-digit whole numbers using the standard algorithm. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students make connections to the component parts of figures to create generalizations about 2-D shapes? |
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Lessons not aligned to CCSS: 1-6 & 1-7 (adjusted), 1-8

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| optional | * **Lesson 1-1: Introduction to the *Student Reference Book***  p. 18-22 | * How can this book help you with your homework? * How can this tool help you work more efficiently? |
| 4.G.1 | * **Lesson 1-2: Points, Line Segments, Lines, and Rays**  p. 23-28 | * How does explaining a term help you understand it better? * How are a line segment, a line, and a ray different? |
| 4.G.2 | * **Lesson 1-5: Polygons** p. 41-46   *Teacher Note: sequence of lesson 1-3 through 1-5 can be presented as ordered in EM or as listed here* | * Why is it important to determine properties of shapes? * How did the examples help you determine the properties of a polygon? |
| 4.G.1  4.G.2 | * **Lesson 1-4: Parallelograms** p. 35-40 | * How did looking at similarities and differences among quadrilaterals help you categorize the shapes? * How can using properties help you solve problems? |
| 4.G.1  4.G.2  4.NBT.4 | * **Lesson 1-3: Angles, Triangles, and ~~Quadrangles~~** **Quadrilaterals** p. 29-34   *Teacher Note: quadrilateral, NOT quadrangle is the term encouraged to use.* | * What is the minimum number of angles needed to make a shape? How can straws help you prove your answer? |
| 4.G.3  MP1,5 | * **Additional lesson: Soup N’ Letters Café w/Symmetry Activity Centers**   *Teacher Note: there are several choices of activity cards that give students opportunities to practice symmetry.* | * How do I know when I’ve found all lines of symmetry with a figure? |
| 4.G.2 | * **Lesson 1-6: ~~Drawing Circles with a Compass~~ Polygon Pair-Up and Open Response** p. 47-51   *Teacher Note: Skip part 1. Use the Open Response task (AH p. 158)* *to instruct students, followed by “Polygon Pair-Up”* | * Why can a shape have more than one name? |
| 4.G.2 | * **Lesson 1-7: ~~Circle Constructions~~**  Polygon Pair-Up and Oral Assessment 1 & 2/Slate Assessment 3 (p. 63) p. 52-56   *Teacher Note: Skip part 1. Use Oral and Slate assessment tasks to instruct students, followed by “Polygon Pair-Up”* | * Why is it important to connect math ideas to each other? |
|  | * **Progress Check 1 - Lesson 1-9** p. 62-65   *Teacher Note: adjust “quadrangle” question as* ***quadrilateral*** |  |

Support Resources

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| 4.G.1 | 4.G.2  **GK** , “Touch & Match ~~Quadrangles~~ Quadrilaterals”  **GK** “Geometry five Questions”  **GK** “Name That Polygon”, “Polygon Capture”  **AIMS** (Solve It) “Shape Logic” p. 177-183 |
| **Tier 2:** Besides setting procedures and expectations, we suggest that you give the Fact Strategies tests to determine the needs of your students. If you have students that struggle with knowing these facts, it would be wise to address them in your intervention time. Activities from your “Addition and Subtraction Fact Strategies” and “Multiplication Fact Strategies” booklets will offer several activities for teaching and practicing each specific strategy. | |

Unit 2: **Using Numbers and Organizing Data** Time Frame: Sep 19- Oct 5 (24 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Generalize place value understanding for multi-digit whole numbers. * Use place value understanding and properties of operations to perform multi-digit arithmetic. | | |
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| **CCSS focus this unit:**   * 4.NBT.1-- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.* * 4.NBT.2-- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons * 4.NBT.4-- Fluently add and subtract multi-digit whole numbers using the standard algorithm.   Also addressed:   * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. * 4.MD.4-- Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.* |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I use the structure of the place value system to assist students in their efficiency and accuracy in multi-digit computation? * What strategies for computation emphasize place value knowledge and skill? |
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Lessons not aligned to CCSS: 2-5

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| MP 1-8 | * **Additional Lesson: Part-Part-Whole Teaching Tool** | * How will these tools help your thinking as you solve word problems in addition and subtraction? |
| MP 1-8 | * **Additional Lesson: Start/Change/Result Teaching Tool** | * How is this tool similar to the tools from yesterday? * How does the sequence of information in the word story assist with comprehending the structure of the word problem? |
| MP 1-8 | * **Additional Lesson: Comparison Model Teaching Tool** | * How is this tool similar to the tools from before? * How is this tool different? |
| 4.NBT.2  4.MD.2  4.OA.5  MP2,4,5,6,  ▲4.3.4.K3 | * **Lesson 2-1: A Visit to Washington, D.C.** p. 82-88 | * Why is it important to understand what numbers mean? |
| Optional  ▲4.2.3.A1  ▲4.1.2.K5c | * **Lesson 2-2: Many Names for Numbers** p. 89-93 | * How is it helpful to solve a problem in more than one way? |
| 4.NBT.1  4.NBT.2  MP2, 6, 7, 8  ▲4.1.2.K1 | * **Lesson 2-3: Place Value in Whole Numbers** p. 94-99 | * Why is our number system called base-10? * How can just 10 digits form all the whole numbers there are? |
| 4.NBT.1  4.NBT.2  MP2, 5, 8  ▲4.1.2.K1 | * **Lesson 2-4: Place Value with a Calculator**  p. 100-105   *Teacher note, “Links to the Future”, has important instructional information. Also consider having students calculate mentally and then check with calculator* | * How can a pattern help you solve a problem? * What patterns are most helpful in solving these problems? |
| MP2, 4,7, 8,  ▲4.2.K1c, f  ▲4.4.2.A2a-e | * **Lesson 2-6: The Median**  p. 112-118   ***Teacher Note:*** *Lesson 2-5 has been omitted due to resource availability. If this is not an issue, this lesson has significant connections to the current state assessment.* | * What would happen to the median average if more students had large families? |
| 4.NBT.2  MP 1-8 | * **Lesson 2-7: Addition of Multi-digit Numbers** (2 days)p. 119-125   *Teacher note, include number stories in Differentiation Options and the computation teaching tools to describe structure* | * Why is it important to question an answer you think is incorrect? * Why is it important to make sense of other people’s mathematical thinking? |
| 4.MD.4  MP 1-7  ▲4.3.2.K2a  ▲4.4.2.A2a-e | * **Lesson 2-8: Displaying Data with a Bar Graph**  p. 126-131   *Teacher Note: emphasize the line plot* | * Why is it useful to graph your data? * How can mathematical models help you solve problems? |
| 4.NBT.2  4.NBT.4  4.OA.3  MP 1-8 | * **Lesson 2-9: Subtraction of Multi-digit Numbers** (2 days)p. 132-137   *Teacher Note: open number line for demonstrating understanding of “partial-differences” is recommended, also include number stories in Differentiation Options with the computation teaching tools* | * Why is it important for you to explain how you solve problems? * How does this method compare to other subtraction methods you know? |
|  | * **Progress Check 2 - Lesson 2-10** p. 138-141 |  |
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| MP 1-8 | * **Additional lesson – Group/Group Size/Result Thinking Tool** (2-3 days) | * How do these thinking tools help your efficiency and accuracy? |

Support Resources

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| 4.NBT.1  **GK** “Addition Spin”  **GK** “Subtraction Target Practice” | 4.NBT.2  **GK**  “High Number Toss” |
| 4.NBT.4 |  |

Unit 3: **Multiplication & Division: Number Sentences & Algebra** Time Frame: Oct 8 – Nov 2 (18 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Use the four operations with whole numbers to solve problems. * Gain familiarity with factors and multiples. | | |
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| **CCSS focus this unit:**   * 4.OA.1-- Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. * 4.OA.5-- Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. * 4.NBT.2-- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons   Also addressed:   * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. * 4.OA.4-- Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite..6 - * 4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * What types of learning experiences do I need to provide in order for the students to understand the different models of multiplication (equal groups, arrays or area, multiplicative comparison)? * How can I embed questioning strategies when comparing multi-digit numbers so students are focusing on place value appropriately? |
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Lessons not aligned to CCSS: 3-3, 3-6, 3-7, 3-10, 3-11

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 4.OA.5  MP3,5,6,7,8  ▲4.2.3.K2 | * **Lesson 3-1: “What’s My Rule?”**  p. 158-162   *Teacher Note: it may be necessary to review basic understanding of what multiplication and division means before addressing proceeding lessons* | * How do you solve the problem when the rule is missing? |
| ▲4.2.3.K2 | * **Half** **Lesson 3-1 ½: Function Tables** |  |
| 4.OA.1,  4.OA.4,  4.OA.5  MP1,2,5,6,7,8  ▲4.1.2.K5a-b,e  ▲4.1.4.K6b | * **Lesson 3-2: Multiplication Facts**  p. 163-168 | * How could you use your Multiplication/Division Facts Table or Fact Triangles to find factor pairs? |
| Optional | * **Lesson 3-3: Multiplication Facts Practice**  p. 169-174 | * When might you need to use your facts in real life? * Why do we look for patterns in math? |
| 4.OA.1  MP1,2,4,6,  ▲4.4.2.K1g,h  ▲4.4.2.A2d-e | * **Lesson 3-4: More Multiplication Facts Practice** p. 175 -179 | * What might you learn by graphing your scores over time? |
| ▲4.2.3.A1 | * **Half Lesson 3-4 ½: Relationships** |  |
| 4.NBT.6  MP 1-6  ▲4.1.4.K6c | * **Lesson 3-5: Multiplication and Division** p. 180-185 | * How can you use the Multiplication/Division Facts Table to solve division problems? * What other tools can you use to solve division problems? |
| Optional | * **Lesson 3-6: World Tour: Flying to Africa**  p. 186-191 | * What kind of information can you learn from the Country Profile? |
| 4.OA.3, 4.NBT.2,  4.MD.2  MP1,2,3,4,6 | * **Lesson 3-8: A Guide for Solving Number Stories** p. 198-202 (2 days)   *Teacher Note: Include “Readiness” activity into instruction. Use “Thinking Tools” with students, too.* | * Compare different plans for solving the problem. What can you learn from examining different plans? * Why should we check whether our answers make sense? |
| 4.NBT.2  MP1,2,3,6 | * **Lesson 3-9: True or False Number Sentences** p. 203-207 | * Why do we use mathematical symbols instead of words? * 4,684 + 182 > 4,694 + 482 Can you tell whether it is true or false before doing the additions?\* How? What digits in each number helped you decide? |
| ▲4.1.2.K5c | * **Lesson 3-10: Parentheses in Number Sentences** p. 208-213 | * In a number sentence, what do parentheses indicate? |
| ▲4.2.2.K2 | * **Lesson 3-11: Open Sentences** p. 214-219 | * What do you do when it is hard to find a solution? |
|  | * **Progress Check 3 - Lesson 3-12**  p. 220-223 |  |

Support Resources

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| Fact Fluency:  **GK** “Fact Triangle Flip”, “Beat the Calculator (x)”, “Division Arrays”  **GK** “Multiplication Top-it”, “Baseball Multiplication”  **GK** “Multiplication Bingo”, “Factor Top-it”, “Factor Bingo” | 4.OA.5  **GK** “Guess the Rule”, “Buzz” |
| 4.NBT.2 | 4.OA.1 |

Unit 4: **Decimals and Their Uses**  Time Frame: November 5 - 30 (16 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. * Generalize place value understanding for multi-digit whole numbers. * Understand decimal notation for fractions, and compare decimal fractions. | | |
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| **CCSS focus this unit:**   * 4.NBT.1-- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.* * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. * 4.NF.7-- Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.   Also addressed:   * 4.MD.1-- Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * Which manipulatives will work best when instructing students in understanding decimal place value? * How can students defend their choices when comparing decimals? |
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Lessons not aligned to CCSS: 4-7

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 4.NF.5  4.NF.6 | * **Additional lesson – Decimal Squares** (2-3 days) | * How do decimal squares show the base ten relationship of our number system? |
| 4.NBT.1  MP2,5,6,7,8, | * **Lesson 4-1: Decimal Place Value** p. 238-243   *Teacher Note: decimal squares may be the better tool to use in place of base ten blocks* | * Why do you think our number system is called base-10? * Discuss why the decimal point is necessary. |
| 4.NF.6  MP1, 2, 5, 6, | * **Lesson 4-2: Review of Basics Decimal Concepts** p. 244-249 | * Do 0.04 and 4/100 represent the same value? How do you know? |
| 4.NF.7  MP2, 3, 5, 6, | * **Lesson 4-3: Comparing and Ordering Decimals**  p. 250-254 | * How could base-10 blocks help you compare and order decimals? * How might explaining other people’s mistakes help your understanding? |
| 6, 4.NF.7,  4.MD.2  MP1,2,3,4,5 | * **Lesson 4-4: Estimating with Decimals**  p. 255-259 | * Why is 45.6 miles more precise than 45 miles? |
| 4.MD.2  MP1-7  ▲4.4.2.K1i | * **Lesson 4-5: Decimal Addition and Subtraction** p. 260-265 | * What other ways might whole number place value help you understand decimal place value? * Is it possible to use the same methods for adding and subtracting decimals that you use for whole numbers? |
| 4.MD.2  Mp 1-6 | * **Lesson 4-6: Decimals in Money** p.266-27 | * When have you needed to add or subtract money amounts in your life? |
| 4.NBT.1,  4.MD.1  MP2,4,5,6, | * **Lesson 4-8: Metric Units of Length**  p. 277-282 | * How could knowing the values of each unit help you convert between different metric units of length? |
| 4.NF.7,  4.MD.1  4.NBT.1  MP2,3,4,5,6 | * **Lesson 4-9: Personal References for Metric Length**  p. 283-288 | * How did you use your personal references to estimate distances? |
| 4.OA.2,  4.MD.1  4.NF.7  4.NBT.1  MP1,4,5,6, | * **Lesson 4-10: Measuring in Millimeters** p. 289-293   *Teacher Note: discuss the multiplication comparison within metric measurement* | * How do larger measurements help you understand smaller measurements? |
|  | * **Lesson 4-11: Progress Check 4**  p. 294-297   *Skip 11b & 12b; adjust #5 to remove number with thousandths place* |  |

Support Resources

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| 4.NBT.1  **GK** “Base-10 Exchange”  **EM-DO:** Readiness 4.2 | 4.NF.7  **GK** “Number Top-it (Decimals)”  **GK** “Coin Top-it”  **EM-DO:** Readiness 4.3 |
| 4.MD.2 |  |

Unit 5: **Big Numbers, Estimations, and Computation** Time Frame: December 3 - 20 (14 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Use place value understanding and properties of operations to perform multi-digit arithmetic. * Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. * Generalize place value understanding for multi-digit whole numbers. | | |
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| **CCSS focus this unit:**   * 4.NBT.2-- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons * 4.NBT.3-- Use place value understanding to round multi-digit whole numbers to any place. * 4.NBT.5-- Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.   Also addressed:   * 4.NBT.1-- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.* * 4.OA.1-- Interpret a multiplication equation as a comparison, * 4.OA.2 – Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. * 4.OA.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * What strategies can I incorporate to make sure students understand the place value when working with multi-digit operations? * As students are working with conversions in measurement, how can I encourage discussions about the appropriate use of measurement conversions? |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies |  | **Critical Vocabulary:**  digit, place value, rounding, multiplication, expanded notation, estimation, product, algorithm, whole numbers |

Lessons not aligned to CCSS: 5-7

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 4.OA.1,  4.OA.2, 4.NBT.1, 4.NBT.5,  4.MD.2  MP 1-8 | * **Lesson 5-1: Extended Multiplication Facts**  p. 314-319   *Teacher Note: the Thinking Tools will be beneficial during this unit* | * What patterns helped you figure out the shortcut? * How could you use the shortcut to help you? |
| 4.NBT.2, 4.NBT.5,  MP 1-8 | * **Lesson 5-2: Multiplication *Wrestling***  p. 320-324 | * Why should you keep trying to solve problems if you don’t get the answer on the first try? |
| 4.OA.3, 4.NBT.3, 4.MD.2  MP1,3,4,5,6 | * **Lesson 5-3: Estimating Sums** p. 325-330 | * How did you make your estimates? Why did you do it this way? * Is it always necessary to find the exact answer? |
| 4.NBT.3, 4.NBT.5, 4.MD.2  MP1,3,4,5,6,8 | * **Lesson 5-4: Estimating Products**  p. 331-336 | * How can you check whether your estimates make sense? |
| 4.OA.3, 4.NBT.5,  4.NBT.3  4.MD.2  MP1,2,3,5, 6,8  ▲4.1.2.K5f | * **Lesson 5-5: Partial-Products Multiplication (Part 1)**  p. 337-342 | * Was there a strategy shared you might try when solving a problem? How was this strategy different? |
| .OA.3, 4.NBT.3, 4.NBT.5, 4.MD.2  MP 1-8 | * **Lesson 5-6: Partial-Products Multiplication (Part 2)**  p. 343-348 | * Why are you asked to estimate the products before finding the exact answers? |
| Optional | * **Lesson 5-7: Lattice Multiplication**  p. 349-354 | * How does the lattice method use place value? |
| 4.NBT.5  4.NBT.1, 4.NBT.2  MP 1-7  ▲4.1.2.K1 | * **Lesson 5-8: Big Numbers** p. 355-360 | * Why are the commas important when reading and writing large numbers? * How did you use the array to find patterns? |
| MP2,3,4,6,7,8, 4.NBT.1, 4.NBT.2, | * **Lesson 5-9: Powers of 10** p. 361-366   *Teacher Note: emphasis of understanding the ten relationship among different place values is the focus (not the exponents)* | * What do the patterns tell you about the value of each place? |
| 4.NBT.3  MP1,3,4,5,6,  ▲4.1.2.K1 | * **Lesson 5-10: Rounding & Reporting Large Numbers** p.367-372 | * Which version of the marathon count would you report: 9,059; 9,060; 9,100; or 9,000? Explain your answer. |
| 4.NBT.2,  4.NF.7  MP2,3,4,5,6,  ▲4.1.2.K1 | * **Lesson 5-11: Comparing Data** p. 373-377 | * When comparing large numbers with the same number of digits, which digits should you consider? |
|  | * **Lesson 5-12: Progress Check 5** p.378-381 |  |

Support Resources

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| 4.NBT.2  **GK** “Number Top-it”, “High Number Toss”, “Name that Number”  **EM-DO:** Readiness 5.8, Readiness 5.11, Extra practice 5.11 | 4.NBT.5  **GK** “Multiplication Wrestling” |
| 4.MD.2  **EM-DO**: Extra Practice 5.3 | 4.NBT.1 |
| 4.NBT.3  **EM-DO**: Readiness 5.4 |  |

Notes:

Unit 6: **Division; …; Measures of Angles** Time Frame: January 3 - 30 (19 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Represent and interpret data. * Geometric measurement: understand concepts of angle and measure angles. * Use the four operations with whole numbers to solve problems. * Use place value understanding and properties of operations to perform multi-digit arithmetic. | | |
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| **CCSS focus this unit:**   * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. * 4.NBT.6-- Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. * 4.OA.3 – Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. * 4.MD.5 - Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:   An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles.  An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.  Also addressed:*.*   * 4.NBT.2-- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons * 4.OA.4 - Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. * 4.MD.6 - Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. * 4.MD.7 - Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students understand “what” we measure influence “how” we measure? * How can I help my students value the meaning of operations when solving math problems? |
| **Critical Vocabulary:**  array, multiplication, division, quotient, remainder, dividend, divisor, mixed number, rotation, right angle, transformation, reflection, translation, vertex, acute angle, obtuse angle, straight angle, ordered pair, coordinate |
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| **Key:** (see unit 5) |  |  |

Lessons not aligned to CCSS: 6-9

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 4.OA.2,  4.OA.3, 4.MD.2  MP1,2,3,4,5,6  **▲4.1.4.K**  **▲4.2.2.K2a** | * **Lesson 6-1: Multiplication and Division Stories**   p. 400-405  *Teacher Note: the Thinking Tools will be beneficial during this unit* | * How can the Multiplication/Division Diagrams help you solve number stories? * How are a Multiplication/Division Diagram and a number sentence alike? |
| 4.OA.3, 4.OA.4,  4.NBT.2, 4.NBT.6  MP 1-8  **▲4.2.2.K2a**  **▲**4.2.3.A1 | * **Lesson 6-2: Strategies for Division** p. 406-411 | * Which strategies might you use to solve other division number story problems? Why? * Why is it helpful to share different strategies for solving problems? |
| 4.NBT.6,  MP 1-8  **▲4.1.4.K6c** | * **Lesson 6-3: The Partial-Quotients Division Algorithm, Part 1** p. 412-418 | * How is a summary number model like a number model with an unknown? How is it different? |
| 4.OA.3, 4.OA.4,  4.NBT.6, 4.MD.2  MP1,2,3,4,6, | * **Lesson 6-4: Expressing and Interpreting Remainders** p. 419-424 | * Name a situation when you could ignore a remainder. * Why do you need to consider remainders when sharing things in real life? |
| 4.MD.5a,b  MP1-6 | * **Lesson 6-5: Rotations and Angles** p. 425-430 | * How can a tool help you determine an angle measure? * How does finding elapsed time on a clock help you find the degrees the minute hand has moved? |
| **▲4.3.3.K2** | * **Half-Lesson 6.5½ –Transformation** |  |
| 4.MD.5a,b 4.MD.6, 4.MD.7  MP2,3,5,6, | * **Lesson 6-6: Using a Full Circle Protractor**   p. 431-436 | * Why is it helpful to know the properties of angles? * What mistakes might someone make when using a full-circle protractor? |
| 4.MD.5a,b 4.MD.6, 4.MD.7  MP2,3,5,6, | * **Additional lesson-“ Exploring Angle Measures “** from 5th grade 3.3 | * How does knowing the total number of degrees in a circle help you solve pattern block angle problems? |
| 4.MD.5a,b 4.MD.6, 4.MD.7  MP2,3,5,6, | * **Additional lesson-“Using a Protractor “** from 5th grade 3.4 | * What mistakes could a good estimate help you catch? * How do estimates help you check the answers you get with tools? |
| 4.MD.5a,b, 4.MD.6, 4.MD.7  MP2,3,4,5,6, | * **Lesson 6-7: The Half-Circle Protractor** p. 437-442 | * How did estimation help you determine if you used the protractor correctly? |
| 4.OA.3, 4.MD.2  4.G.1  MP1,2,4,5,6, | * **Lesson 6-8: Rectangular Coordinate Grids for Maps** p. 443-448 | * What rules do you need to follow when locating points on a coordinate grid using ordered pairs? |
| 4.OA.3, .NBT.6  MP 1-8 | * **Lesson 6-10: The Partial-Quotients Division Algorithm, Part 2** p. 455-459 | * How might you use the “Easy Multiples” list to help you solve division problems? |
|  | * **Lesson 6-11: Progress Check** p. 460-463 |  |

Support Resources

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| 4.OA.3:  **GK** “Angle Tangle”  **EM-DO**: Enrichment 6.1, Enrichment 6.3, Enrichment 6.6 | 4.NBT.6  **GK** “Division Arrays”, “Division Dash  **EM-DO**: Readiness 6.1, Extra Practice 6.3, Readiness 6.4, Enrichment 6.4, Readiness 6.10 |
| 4.MD.2 | 4.MD.5  **GK** “Angle Tangle”  **EM-DO**: Extra Practice 6.6 |

Unit 8: **Perimeter and Area** Time Frame: Jan 31 - Feb 11 (8 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. | | |
|  | | |
| **CCSS focus this unit:**   * 4.MD.2-- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. * 4.MD.3-- Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*   Also addressed:   * 4.NF.4-- Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.   a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.  b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. (cont’d)*  c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.  d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students have conceptual understand behind the formulas used for solving for area and perimeter? |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies |  | **Critical Vocabulary:**  digit, place value, rounding, multiplication, expanded notation, estimation, product, algorithm, whole numbers |

Lessons not aligned to CCSS: 8-4, 8-6, 8-7, 8-8

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| ▲ 4.1.2.K5a-e | * **Half Lesson - Lesson 8-0 ½ Math Properties** |  |
| 4.MD.2  MP 1-7  ▲4.3.2.A2  ▲4.4.2.A2a,c,d | * **Lesson 8-1: Kitchen Layouts and Perimeter**  p. 658-663   *Teacher Note: include Readiness activity* | * What might the perimeter of a work triangle tell you about a kitchen? |
| 4.NF.4a,b,c  ▲4.4.2.A2d | * **Lesson 8-2: Scale Drawings** p. 664-669 | * Why would you want a rough floor plan of a room?\* * When would someone need to make a more accurate scale drawing?\* |
| 4.MD.3  MP3,4,6,7 | * **Lesson 8-3: Area** p. 670-674 | * Why is it important to use the correct units when you explain problems? |
| 4.MD.3  MP2,5,6,7,8 | * **Lesson 8-5:Formula for the Area of a Rectangle** p. 681-686   *Teacher Note: include Readiness activity* | * Which is more efficient: counting squares or using the formula to calculate area of a rectangle? Why? |
|  | * **Lesson 8-9-Progress Check**  p.704-707 |  |

Support Resources

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| 4.MD.2 | 4.MD.3  **VDW**: p. 261-264; p. 281-283 |

Unit 7: **Fractions and Their Uses**  Time Frame: Feb 12 – May 3 (48 days w/assessment)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * **Extend understanding of fraction equivalence and ordering.** * **Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.** | | |
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| **CCSS focus this unit:**   * 4.NF.3 - Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.   a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.  b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. (cont’d)*  c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.  d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem   * 4.NF.1-- Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. * 4.NF.2-- Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. * 4.NF.4-- Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.   a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4) recording the conclusion by the equation 5/4 = 5 × (1/4).*  b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*  c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*   * 4.NF.5 - Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*   Also addressed:   * 4.NF.6-- Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.*62 *as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.* * 4.OA.4-- Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students know that fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers? * How can I help students have comfort with multiple types of tools when representing fraction understanding?   **Critical Vocabulary:**  digit, place value, rounding, multiplication, expanded notation, estimation, product, algorithm, whole numbers |

Lessons not aligned to CCSS: 7-3. 7-11, 7-12

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 3.NF.1  MP 1-8 | * **Additional lesson: What is the Part?** (2 days) | * Which fraction model (regional, linear, or sets) do you find most challenging? |
| 3.NF.1  MP 1-8 | * **Additional lesson: What is the Fraction?** (2 days) | * Which fraction model (regional, linear, or sets) do you find easiest? |
| 3.NF.1  MP 1-8 | * **Additional lesson: What is the Whole?** (2 days) | * Which question (part? fraction? whole?) do you find most challenging? |
| 4.NF.3b  MP2,3,4,5,6 | * **Lesson 7-1: Review of Basic Fraction Concepts** p. 570-575 (3 days)   *Teacher Note: include Readiness activity & read VDW p 131-135* | * List three ways that fractions are used outside of your math class. |
| 4.NF.4c,  MP2,3,4,5,6, | * **Lesson 7-2: Fractions of Sets** p. 576-580 (2days)   *Teacher Note: do student journal page 243 from lesson 8-7 as another activity for practicing fractions(may be better to use later in the unit)* | * What does a “fair share” represent when determining fractions of sets? * When might you need to find fractions of sets in real life? |
| 4.NF.3a,b  MP1-6  ▲**4.3.1.A2** | * **Lesson 7-4: Pattern-Block Fractions** p. 587-591 (2 days) | * Why do the fractions of pattern blocks change when the whole changes? |
| 4.NF.3a,b,c  MP1,2,5,6 | * **Lesson 7-5: Fraction Addition and Subtraction** p. 592-597 (2-3 days) | * How do you use pattern blocks to model adding and subtracting fractions? |
| 4.NF.1,  4.NF.2  MP2,5,6,7 | * **Lesson 7-6: Many Names for Fractions** p. 598-602 | * What patterns do you see in your Equivalent Names for Fractions table*?* |
| MP2,6,7,8 | * **Lesson 7-7: Equivalent Fractions** p. 603-608   *Teacher Note: include Readiness activity* | * How would you explain a rule for the relationship between equivalent fractions? |
| 3.NF.3b  4.NF.1  MP1-6,8 | * **Additional lesson: Slicing Squares** | * How could patterns help you find equivalent names for numbers |
| 3.NF.1, 2, 3a  4.NF.2  MP 1-8 | * **Additional lesson – Number line Fractions** (2 days) | * What are the challenges of writing fractions on a number line? |
| 4.NF.1,  4.NF.5,  4.NF.6  MP1,-6 | * **Lesson 7-8: Fractions and Decimals** p. 609-614 | * How are fractions and decimals related? |
| 4.NF.6  MP1-6 | * **Additional lesson: Decimals on a Number line** | * How are decimals and fractions similar? Different? |
| 3.NF.3d  MP 1-6 | * **Additional lesson: Fractions (anchors 0, ½, 1)** | * How does knowing close a fraction is to 0, ½, or 1 help understand its value? |
| 4.NF.1,  4.NF.2,  4.NF.5  MP2,3,4,6, | * **Lesson 7-9: Comparing Fractions** p. 615-620 (2 days) | * What do you notice about all the fractions that are less than ½? Greater than ½? |
| 4.MF.2  MP 4-6 | * **Additional lesson: Comparing Fractions** (2 days) |  |
| MP2,4,5,6,  4.NF.3b (foundational) | * **Lesson 7-10: The ONE for Fractions** p. 621-625 (2 days) | * Why is it important to understand what the ONE is in fraction problems? |
| 4.OA.4, 4.NF.4a,b,c  MP1-8 | * **Lesson 7-12a: Multiplying Fractions by Whole Numbers**  p. 637a-637h (2 days)   *Teacher Note: do student journal p. 280A on day 2 for additional practice* | * How is it helpful to use visual representations to solve problems? |
|  | * **Lesson 7-13: Progress Check**  p. 638-641   *Teacher Note: skip 12, 13* |  |

Support Resources

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| 4.NF.1  **GK** – Fraction Match; Equivalent Fractions, Fraction Capture,  **VDW**: p. 151-155  **EM-DO:** Readiness 7.6, Enrichment 7.6, Extra Practice 7.6 | 4.NF.5  **VDW**: p. 182-183  **EM-DO**: Readiness 7.8 |
| 4.NF.4  **GK:** Fraction Multiplication Top-it  VDW: p. 167-172  EM-DO: Enrichment 7.12a | 4.NF.2  **GK** – Fraction Top-it  VDW: p. 146-148  EM-DO: Readiness 7.9 |
| 4.NF.3  EM-DO: Enrichment 7.4, Readiness 7.5, Extra Practice 7.5 | 4.NF.6  VDW: p. 182-183  EM-DO: Readiness 7.8 |

End-of-Year: **Lessons and Optional Projects** Time Frame: May 6 - 22 (13 days)

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| Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf | | |
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| **CCSS focus this unit:** |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * What math content could these optional math activities support? |

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 4.OA.3  4.MD.2  MP 1-8 | * **Lesson 9-6: Comparing the Results of a Survey** p.750-755   *Teacher Note: do part 2: Solving Number Stories w/Multiplication and Division as the core lesson* | * How did you use the data table to decide what people are more likely to prefer? |
| 4.MD.1,  4.MD.2  MP2,4,5,6 | * **Lesson 11-1: Weight**  p. 848-853 (2 days)   *Teacher Note: skip “Converting Between Metric and Customary Weights”* | * What might be measured in milligrams? In grams? In kilograms? In metric tons?\* * What might be measured in ounces? In pounds? In tons?\* |
| 4.NF.3a,b,c,d  4.MD.1,  4.MD.2  MP2,4,5,6 | * **Lesson 11-7: Capacity** p. 884-889 | * How do examples of liquid amounts help you learn the differences between liters and milliliters? |
| 4.MD.1,  4.MD.2  MP1,2,3,4,6,8 | * **Lesson 12-4: Comparison Shopping: Part 1**   p. 926-930  *Teacher Note: do Readiness activity & journal page 310 from lesson 12-1 (good fraction/decimal number line activity)* |  |

Project Options

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| MP1,2,4, 6,7, 4.OA.5,  4.G.3 | * **Project 4: Making a Quilt** p. 959–963 |  |
| 4.MD.2  MP 1,2,3, | * **Project 5: Which soft Drink is Best Buy?** p. 972–975 |  |
| MP2,4,6,7 | * **Project 7: Numbers, Mayan Style** p. 972–975 |  |